Opportunity Title: USDA-ARS Summer Internship in Weed Biological Control
Opportunity Reference Code: USDA-ARS-NE-2024-0103A

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-NE-2024-0103A

How to Apply ***Connect with ORISE...on the GO!*** Download the new ORISE GO mobile app in the Apple App Store or Google Play Store to help you stay engaged, connected, and informed during your ORISE experience and beyond!

A complete application consists of:

- An application
- Transcripts – Click here for detailed information about acceptable transcripts
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list.
- Two educational or professional recommendations

All documents must be in English or include an official English translation.

Description ***Applications are reviewed on a rolling-basis.**

ARS Office/Lab and Location: A research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), located in Frederick, Maryland.

The Agricultural Research Service (ARS) is the U.S. Department of Agriculture's chief scientific in-house research agency with a mission to find solutions to agricultural problems that affect Americans every day from field to table. ARS will deliver cutting-edge, scientific tools and innovative solutions for American farmers, producers, industry, and communities to support the nourishment and well-being of all people; sustain our nation's agroecosystems and natural resources; and ensure the economic competitiveness and excellence of our agriculture. The vision of the agency is to provide global leadership in agricultural discoveries through scientific excellence.

Research Project: This project contributes to the discovery, development, and evaluation of microbes for use as biological control agents against non-native invasive weeds. Invasive weeds cause billions of dollars in damages across diverse agricultural systems and environments every year. Microbes can be used as biological control agents to manage invasive plants in an environmentally safe and economical manner. The primary goals of this project are:

- To assist with the identification and maintenance of endemic or naturalized plant pathogens found on established invasive plants
- To help develop protocols to grow non-model invasive weeds used for experimental purposes
- To further characterize interactions between target weeds species and microbes of interest

Learning Objectives: As a result of this opportunity, the participant will:

- Understand the purpose and use of biological control methods
- Participate in hands-on research with microbial-based weed biological

control agents involving one or more of the following: DNA extraction, inoculation of plants, monitoring of microbial interactions
- Collaborate with a team of scientists and technical support staff to address project goals
- Learn fundamental laboratory and greenhouse procedures related to plant pathology and weed science

Mentor(s): The mentor for this opportunity is Michael Fulcher (michael.fulcher@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: May 20, 2024. Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will initially be for 12 weeks, but may be renewed upon recommendation of ARS and is contingent on the availability of funds.

Level of Participation: The appointment is full time.

Participant Stipend: The participant will receive a monthly stipend commensurate with educational level and experience.

Citizenship Requirements: This opportunity is available to U.S. citizens only.

ORISE Information: This program, administered by ORAU through its contract with the U.S. Department of Energy (DOE) to manage the Oak Ridge Institute for Science and Education (ORISE), was established through an interagency agreement between DOE and ARS. Participants do not become employees of USDA, ARS, DOE or the program administrator, and there are no employment-related benefits. Proof of health insurance is required for participation in this program. Health insurance can be obtained through ORISE.

Questions: Please visit our Program Website. After reading, if you have additional questions about the application process, please email ORISE.ARS.Northeast@orau.org and include the reference code for this opportunity.

Qualifications

The qualified candidate should have received or be currently pursuing an associate's, bachelor's, or master's degree in the one of the relevant fields. Degree must have been received within the last year or be currently pursuing.

Preferred skills:

- Strong candidates should have background knowledge in biology and/or chemistry and experience in a laboratory environment that are demonstrated through coursework or previous research opportunities.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Associate's Degree, Bachelor's Degree, or Master's Degree

received within the last 12 months or currently pursuing.

- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 👁)
  - **Communications and Graphics Design** (2 👁)
  - **Computer, Information, and Data Sciences** (17 👁)
  - **Earth and Geosciences** (21 👁)
  - **Engineering** (27 👁)
  - **Environmental and Marine Sciences** (14 👁)
  - **Life Health and Medical Sciences** (51 👁)
  - **Mathematics and Statistics** (11 👁)
  - **Physics** (16 👁)
  - **Science & Engineering-related** (2 👁)
  - **Social and Behavioral Sciences** (29 👁)
- **Age:** Must be 18 years of age